CIVIL-TECH CONSULTANTS AND ENGINEERS

Building & Highway Material Testing Laboratory

NABL - Accredited Laboratory as per ISO / IEC-17025 :2005

T-2377

Job No.: CTCE/BBMP/KRIDL/W.No.14/CSR-04/633h/CEMENT/2018-19 Date: 02.05.2018

TEST REPORT ON CEMENT

* Customer	:	**Asst. Executive Engineer,** Project Division, BBMP, Bangalore.
* Agency	:	**Technical Manager,** KRIDL, Bangalore.
* Name of Work	:	Improvements and repair works in parks in Ward No.14, BBMP, Bangalore.
* Reference	:	BBMP/EE/PD/WO/18/2017-18 Dated: 05.01.2018
* Sample ID	:	Cement
Sample Received on	:	30.04.2018
Period of Testing	:	30.04.2018 to 02.05.2018

The results of the tests conducted on the cement sample are as follows:

Sl. No	Descriptions	Test Method as per IS	Test Result	Requirements as per IS: 8112-2013
1	Standard Consistency	IS-4031 (Part -4) 1988 (RA-2009)	28.50 %	-
2	a) Initial Setting Time	IS-4031 (Part -5) 1988 (RA-2009)	180 Minutes	Not Less than 30 Minutes
	b) Final Setting Time	IS-4031 (Part -5) 1988 (RA-2009)	490 Minutes	Not More than 600 Minutes
3	Soundness by Le Chartlier Method	IS-4031 (Part-3) 1988 (RA-2009)	1 mm	Not more than 10mm

*Information is furnished by the Customer/Representative.

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****

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T-2377

Job No.: CTCE/BBMP/KRIDL/W.No.14/CSR-04/633h/SAND-Gradation/2018-19

TEST REPORT ON SIEVE ANALYSIS OF FINE AGGREGATES

02.05.2018

* Customer	:	**Asst. Executive Engineer,** Project Division, BBMP, Bangalore.
* Agency	:	**Technical Manager,** KRIDL, Bangalore.
* Name of Work	:	Improvements and repair works in parks in Ward No.14, BBMP, Bangalore.
* Reference	:	BBMP/EE/PD/WO/18/2017-18 Dated: 05.01.2018
* Sample ID	:	Fine Aggregates
Technical Reference	:	IS : 2386 (Part 1) - 1963 (RA-2007)
Sample Received On	:	30.04.2018
Date of Testing	:	02.05.2018

Total Wt. of Aggregates in gms = **1000**

IS Sieve Size in mm	Cumulative Weight Passing in %	Specific Limits as per IS 383-1970 (RA- 2007)			
		Zone-I	Zone-II	Zone-III	Zone-IV
10	100	100	100	100	100
4.75	98.50	90-100	90-100	90-100	95-100
2.36	80.50	60-95	75-100	85-100	95-100
1.18	58.50	30-70	55-90	75-100	90-100
600 Micron	37.20	15-34	35-59	60-79	80-100
300 Micron	15.70	5-20	8-30	12-40	15-50
150 Micron	5.50	0-10	0-10	0-10	0-15

* Information is furnished by the Customer/Representative

Remarks : This sample is under Zone-II specific limits.

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Job No.: CTCE/BBMP/KRIDL/W.No.14/CSR-04/633h/AGG/GR/2018-19

02.05.2018

TEST REPORT ON SIEVE ANALYSIS OF COARSE AGGREGATES

* Customer	:	**Asst. Executive Engineer,** Project Division, BBMP, Bangalore.
* Agency	:	**Technical Manager,** KRIDL, Bangalore.
* Name of Work	:	Improvements and repair works in parks in Ward No.14, BBMP, Bangalore.
* Reference	:	BBMP/EE/PD/WO/18/2017-18 Dated: 05.01.2018
* Sample ID	:	Coarse Aggregates (40mm)
Technical Reference	:	IS : 2386 (Part 1) -1963 (RA-2011)
Sample Received on	:	30.04.2018
Date of Testing	:	02.05.2018

Total Wt. of Aggregates in gms= **5000**

IS Sieve Size in mm	Cumulative Weight Passing in %	Specific Limits as per IS 383-1970 (RA- 2011)	
		Graded	Single Sized
80	100	100	-
63	100	-	100
40	97.56	95-100	85-100
20	40.44	30-70	0-20
10	15.40	10-35	0-5
4.75	3.40	0-5	-

* Information is furnished by the Customer/Representative

Remarks : This sample is under graded specific limits.

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Job No: CTCE/BBMP/KRIDL/W.No.14/Steel/2018-19 04.05.2018

TEST REPORT ON REINFORCEMENT STEEL

* Customer	:	**Asst. Executive Engineer,** Project Division, BBMP, Bangalore.
* Agency	:	**Technical Manager,** KRIDL, Bangalore.
* Name of work	:	Improvements and repair works in parks in Ward No.14, BBMP, Bangalore.
* Reference	:	BBMP/EE/PD/WO/18/2017-18 Dated: 05.01.2018
* Samples ID	:	10 mm Bar
Technical Reference	:	IS: 1786-2008
Date of Testing	:	04.05.2018

Sl No	Nominal size (dia) (mm)	Mass per metre (Kg/mtr)	TENSILE STRENGTH			Bend Test	Rebend Test
			0.20% proof stress/Yield stress N/mm2	Tensile strength (Ultimate stress) N/mm2	Elongation percent gauge length		
1	10	0.62	517	558	13.35	O.K	O.K

*Information is furnished by the Customer/Representative.

Civil-Tech Consultants & Engineers Bangalore

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Building & Highway Material Testing Laboratory

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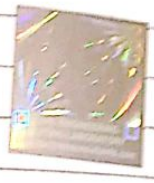
T-2377

Job No.: CTCE/BBMP/KRIDL/W.No.14/CSR-04/633h/Cube/2018-19

26.06.2018

TEST REPORT ON COMPRESSIVE STRENGTH OF CONCRETE CUBES

* Customer	:	Asst. Executive Engineer, Project Division, BBMP, Bangalore.
* Agency	:	Technical Manager, KRIDL, Bangalore.
* Name of the work	:	Improvements and repair works in parks in Ward No.14, BBMP, Bangalore.
* Reference	:	BBMP/EE/PD/WO/18/2017-18 Dated: 05.01.2018
* Sample ID	:	Cement Concrete
Technical Reference	:	IS: 516-1959 (RA-2013)
Size of cubes	:	150mmx150mmx150mm
Cross Sectional Area	:	22500 mm^2
* Grade of Concrete	:	M_{20}
Compressive Strength as on	:	28^{th} day
Sample Received on	:	26.06.2018



Sl.No.	* Date of casting	Date of testing	Weight of cube (Kg)	Failure load (KN)	Compressive strength (N/mm^2)
1	29.05.2018	26.06.2018	8.115	478.3	21.26
2	29.05.2018	26.06.2018	8.229	485.6	21.58
3	29.05.2018	26.06.2018	8.318	513.2	22.81

*Information is furnished by the Customer/Representative.

Civil-Tech Consultants & Engineers Bangalore

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Job No: CTCE/BBMP/KRIDL/WNo.14/CSR-04/6553h/Cube/2018-19

28/6/2018

TEST REPORT ON COMPRESSIVE STRENGTH OF CONCRETE CUBES

*Customer	: Asst. Executive Engineer, Project Division, BBMP, Bangalore.
*Agency	: Technical Manager, KRIDL, Bangalore.
*Name of the work	: Improvements and repair works in parks in Ward No.14, BBMP, Bangalore.
*Reference	: BBMP/EE/PD/WO/13/2017-18 Dated: 05.01.2018
*Sample ID	: Cement Concrete
Technical Reference	: IS: 516-1959 (RA-2013)
Size of cubes	: 150mmx150mmx150mm
Cross Sectional Area	: 22500 mm^2
*Grade of Concrete	: M_{20}
Compressive Strength as on	: 28th day
Sample Received on	: 28.06.2018

Sl.No.	*Date of casting	Date of testing	Weight of cube (Kg)	Failure load (KN)	Compressive strength (N/mm^2)
1	31.05.2018	28.06.2018	8.197	475.5	21.13
2	31.05.2018	28.06.2018	8.293	483.9	21.51
3	31.05.2018	28.06.2018	8.305	516.3	22.95

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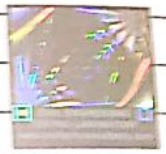
T-2377

Lab No: CTCE/BBMP/KRIDL/W.No.14//CSR-04/633h/Cube/2018-19

28.06.2018

TEST REPORT ON COMPRESSIVE STRENGTH OF CONCRETE CUBES

* Customer	: Asst. Executive Engineer, Project Division, BBMP, Bangalore.
* Agency	: Technical Manager, KRIDL, Bangalore.
* Name of the work	: Improvements and repair works in parks in Ward No.14, BBMP, Bangalore.
* Reference	: BBMP/EE/PD/WO/18/2017-18 Dated: 05.01.2018
* Sample ID	: Cement Concrete
Technical Reference	: IS: 516-1959 (RA-2013)
Size of cubes	: 150mmx150mmx150mm
Cross Sectional Area	: 22500 mm^2
* Grade of Concrete	: M_{20}
Compressive Strength as on	: 28^{th} day
Sample Received on	: 28.06.2018



Sl.No.	* Date of casting	Date of testing	Weight of cube (Kg)	Failure load (KN)	Compressive strength (N/mm^2)
1	31.05.2018	28.06.2018	8.263	483.5	21.49
2	31.05.2018	28.06.2018	8.346	504.7	22.43
3	31.05.2018	28.06.2018	8.415	513.2	22.81

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Job No.: CTCE/BBMP/KRIDL/W.No.14/CSR-04/633h/CC Solid Block/2018-19

09.05.2018

TEST REPORT ON COMPRESSIVE STRENGTH OF SOLID CONCRETE BLOCKS

* Customer	:	Asst. Executive Engineer, Project Division, BBMP, Bangalore.
* Agency	:	Technical Manager, KRIDL, Bangalore.
* Name of Work	:	Improvements and repair works in parks in Ward No.14, BBMP, Bangalore.
* Reference	:	BBMP/EE/PD/WO/18/2017-18 Dated: 05.01.2018
Technical Reference	:	IS: 2185 (Part-1) - 2005 (RA-2010)
Size of Blocks	:	400mm x 200mm x 200mm
Cross Sectional Area	:	80000 mm^2
No. of Blocks Tested	:	08
Sample Received on	:	07.05.2018
Date of Testing	:	09.05.2018

Sl.No.	Block ID	Wt. in Kg	Failure load (KN)	Compressive strength (N/mm^2)	Requirement as per IS: 2185 (Part-1) - 2005 (RA-2010)
1	Block 1	35.26	332.6	4.16	Minimum required Compressive Strength of Individual Units 4.00 N/mm^2
2	Block 2	34.23	335.4	4.19	
3	Block 3	35.90	345.6	4.32	
4	Block 4	36.62	326.9	4.09	
5	Block 5	34.85	330.8	4.14	
6	Block 6	35.26	335.0	4.19	
7	Block 7	36.42	339.5	4.24	
8	Block 8	35.16	341.6	4.27	

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